REMARKS

Status of the Claims

In the present application, Claims 1-6 and 9-15 are currently pending and under examination. Claims 16-24 were previously withdrawn and Claims 7-8 and 25 were previously cancelled.

Claim 1 is amended herein as follows. First, Claim 1 is amended to recite the at least one polyolefin is selected from a copolymer of ethylene and a linear aliphatic α-olefin. Support for this amendment is found at least at page 3, 1st paragraph; and the Example at page 15. Specifically, this amendment is also supported by the disclosure of both ethylene-1-octene co-polymers (DOW DSH 1500 and DOW DSH 8501) and ethylene-1-butene co-polymers (EXXON EXACT 4041 and EXXON EXACT 4033) in the patent specification (page 3, 1st paragraph). DOW DSH 1500 and DOW DSH 8501 are disclosed as ethylene-1-octene copolymers in U.S. Patent No. 6,187,424 (*see:* Table, col. 21), a copy of which is filed herewith. EXXON EXACT 4041 and EXXON EXACT 4033 are disclosed as ethylene-1-butene co-polymers in the Material Safety Data Sheet (MSDS) for poly(ethylene-co-1-butene), a copy of which is filed herewith.

Second, Claim 1 is amended to delete the recitation of the particular cross-linking agents, which are recited in Claim 11.

Finally, Claim 1 is amended by replacing "a" with "i" and replacing "b" with "ii", to avoid any confusion with copolymers "a" and "b" recited in Claims 4-6. Respectfully, Applicants maintain that the amendment to Claim 1 does not introduce new matter, and does not raise new issues that would require further consideration and/or search.

Telephone Interview with Patent Examiner

On March 29, 2006, the undersigned attorney conducted a telephone interview with Patent Examiner Dicus and Supervisory Patent Examiner Dye, to discuss the outstanding Office Action. The Applicants and the undersigned attorney thank Examiners Dicus and Dye for the very helpful comments and suggestions in the preparation of this amendment and response.

Rejection Under 35 U.S.C. § 102(e)

Claims 1-4, 6, and 11-13 were rejected under 35 U.S.C. § 102(e) by the Patent and Trademark Office ("PTO") as being anticipated by U.S. Patent No. 6,254,956 to Kjellqvist et al. ("*Kjellqvist*"). It appears to be the position of the PTO that *Kjellqvist* teaches a floor covering comprising at least one elastomer as a polymeric binder based on at least one polyolefin (density <0.910 g/cm^3), and at least one grafted copolymer, wherein the grafted copolymer is maleic acid anhydride grafted HD polyethylene, and co-crosslinking agent of an acrylate (Office Action, page 2, last paragraph). The PTO states that Claims 1 and 12 are anticipated by this disclosure (Office Action, page 2, last paragraph). Respectfully, Applicants maintain that the amendment to Claim 1 obviates this rejection for at least the following reasons.

Kjellqvist is drawn to a floor, wall or ceiling covering which comprises one or more substantially random **interpolymers** prepared by co-polymerizing the following **monomers**:

> **monomer 1:** one or more α-olefin monomers;
>
> **monomer 2:** one or more vinylidene aromatic monomers and/or one or more hindered aliphatic or cycloaliphatic vinylidene monomers; and
>
> **optionally, monomer 3:** other polymerizable ethylenically unsaturated monomer(s) (*Kjellqvist*, col. 2, lines 24-30).

Thus, *Kjellqvist's* interpolymers require co-polymerizing **monomer 1** with **monomer 2**, and optionally co-polymerizing **1** and **2** with **monomer 3**. Indeed, TABLE 1C (col. 19) and TABLES 3-5 (cols. 21-24) of *Kjellqvist* exemplify **monomer 2** as **styrene** and exemplify *Kjellqvist's* substantially random interpolymers as various interpolymers of ethylene

(**monomer 1**) and styrene (**monomer 2**), as indicated by the term "ESI" (ethylene/styrene interpolymers) used in these tables.

Respectfully, Applicants note that the polyolefin of Claim 1 is absent a constituent olefin monomer corresponding to *Kjellqvist's* monomer **2**. Regarding monomer **2**, *Kjellqvist* requires *"vinylidene aromatic monomers"* (col. 3. lines 6-38), or/or *"hindered aliphatic or cycloaliphatic vinylidene monomers"* (col. 3, line 38-col. 4, line 5), neither of which is encompassed in the polyolefin of Claim 1. The "vinylidene aromatic monomers" of *Kjellqvist's* monomer **2 require** a "phenyl group or a phenyl group substituted with [various substituents]..." (col. 3. lines 22-24), while the "hindered aliphatic or cycloaliphatic vinylidene monomers" specifically excludes "...α-olefin monomers containing from 2 to about 20 carbon atoms and having a linear aliphatic structure such as propylene, butene-1, hexene-1 and octene-1..." (col. 3. lines 58-61).

Applicants note that *Kjellqvist* also discloses that "[t]he floor, wall or ceiling covering of the present invention may contain one or more **other polymers** in addition to one or more of the above-described substantially random interpolymers" (emphasis added; col. 7, lines 19-22), and that these "additional, optional polymer(s)" can be **blended** with (col. 7, lines 28-30), or can be used in the same or different layer (col. 7, lines 30-33) as the interpolymers of *Kjellqvist* noted above. *See:* col. 7, lines 19-40. Further, TABLE 2 (col. 19) and TABLES 3-5 (cols. 21-24) of *Kjellqvist* **exemplify** these other polymers to include such materials as ethylene-1-octene, high density polyethylene (HDPE), low density polyethylene (LDPE), and maleic anhydride grafted polyethylene.

Respectfully, Applicants believe that the PTO misinterprets *Kjellqvist* by failing to distinguish between *Kjellqvist's* **interpolymer** which constitutes a copolymer of monomer **1** with monomer **2**, and *Kjellqvist's* optional, "**other polymers**" that can be blended with the **1/2** interpolymer. The fact that homopolymers or copolymers of ethylene and other α-olefins (col. 11, lines 34-40), can be used as the optional, "other polymers" to prepare blends of *Kjellqvist*, as illustrated in TABLES 3-5 (cols. 21-24) is not relevant, because the floor covering of Applicants' Claim 1 is devoid of *Kjellqvist's* monomer **2**.

Respectfully, Applicants maintain that *Kjellqvist* neither teaches nor suggests the claimed invention, for at least the reasons provided. Accordingly, Applicants request that the rejection of Claims 1-4, 6, and 11-13 under 35 U.S.C. § 102(e) as being anticipated by *Kjellqvist*, be withdrawn, and these claims be allowed.

The Rejections Under 35 U.S.C. § 103

Claims 5 and 9-10. Claims 5 and 9-10 were rejected by the PTO under 35 U.S.C. § 103(a) as being obvious over *Kjellqvist.* Respectfully, this rejection is obviated by the above amendment to Claim 1.

As noted above, *Kjellqvist's* interpolymers require co-polymerizing **monomer 1** (one or more α-olefin monomers) with **monomer 2** (one or more vinylidene aromatic monomers and/or one or more hindered aliphatic or cycloaliphatic vinylidene monomers), and optionally co-polymerizing **1** and **2** with **monomer 3**. Respectfully, Applicants assert that the polyolefin of Claims 5 and 9-10 is absent a constituent olefin monomer corresponding to *Kjellqvist's* monomer **2**. Further, Applicants maintain that *Kjellqvist* offers no suggestion, and provides no motivation, to completely **eliminate** one of the required constituent olefin monomers.

Accordingly, *Kjellqvist* does not teach or suggest every element of the claimed invention. Respectfully, Applicants request that the rejection of Claims 5 and 9-10 under 35 U.S.C. § 103(a) in view of *Kjellqvist* be withdrawn, and these claims allowed.

Claims 14-15. Claims 14-15 were rejected by the PTO under 35 U.S.C. § 103(a) as being obvious over *Kjellqvist* in view of U.S. Patent No. 6,399,689 to Scarlette ("*Scarlette*"). Respectfully, this rejection is obviated by the above amendment to Claim 1.

The interpolymer of *Kjellqvist* requires co-polymerizing **monomer 1** (one or more α-olefin monomers) with **monomer 2** (one or more vinylidene aromatic monomers and/or one or more hindered aliphatic or cycloaliphatic vinylidene monomers). Respectfully, Applicants assert that the polyolefin of Claims 14-15 is absent a constituent olefin monomer corresponding to *Kjellqvist's* monomer **2**. Further, Applicants maintain that neither

Kjellqvist nor *Scarlette*, either alone or in combination, offer any suggestion, and provide no motivation, to completely **eliminate** one of the required constituent olefin monomers.

Accordingly, *Kjellqvist* and *Scarlette*, either alone or in combination, do not teach or suggest every element of the claimed invention. Respectfully, Applicants request that the rejection of Claims 14-15 under 35 U.S.C. § 103(a) over the combination of *Kjellqvist* and *Scarlette*, be withdrawn, and these claims be allowed.

CONCLUSION

Applicants believe this amendment places the claims in condition for allowance and such action is respectfully requested. No additional fees are believed due, however, the Commissioner is hereby authorized to charge any deficiencies which may be required, or credit any overpayment, to Deposit Account Number 09-0528.

Early and favorable consideration is respectfully solicited. If the Examiner believes any informalities remain in the application that can be resolved by telephone interview, a telephone call to the undersigned attorney is requested.

Respectfully submitted,

July 5, 2006
Date

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Attorney Docket No.: D078 1090 (41461.0010.0)

Safety (MSDS) data for poly(ethylene-co-1-butene)

General

Synonyms: Ethylene polymer with 1-butene, alpha-Butene-ethylene copolymer, Aldyl A, Altaven 7000F, AM 1710, ATO 5100S, B 105FF, Bakelite DMDS 3190, Bakelite GERS 6937, Bakelite GRSN 7040, Bakelite GRSN 7042, Bakelite GRSN 7043, Bakelite GRSN 7047NT7, Bakelite GRSN 7071, Bakelite GRSN 7075, Bakelite GRSN 7081, Bakelite GRSN 7087
Synonyms: Bakelite GRSN 7140, Bakelite GRSN 7144, Bakelite GRSN 7146, Bakelite GRSN 7344, Beaulon BL 3450, Beaulon M 3450
Synonyms: Carlona 40-045/09, CF 0218A, Chemirez HD 3001F, Chemirez HD 3005, CL 2089, Clearflex MQFO, CN 2002, DFDA 1137, DFDA 1138, DFDA 2137, DFDA 7540, DFDB 1085, DFDB 9042, DMD 6130, DMPY 1156, DNGA 7344, DP 8010, DP 8910, DP 8910PC
Synonyms: DP 8911, DT 024, DT 032, Duraflex 8240, Duraflex 8910, Duraflex 8910PC, Duraflex 8X10, Duraflex PB 8910PC, E 750C, E 8240, Escorene 1001.32, Escorene 5103, Escorene LL 1001, Escorene LL 1001.09, Escorene LL 1001.32, Escorene LL 1001XF, Escorene LL 1001XI
Synonyms: Escorene LL 1001XV, Escorene LL 1004RQ, Escorene LL 1021.12, Escorene LL 1030.28, Escorene LL 5202, Escorene LL 6301RQ, Escorene LLN 1002YB, Escorene LLN 1201XV, Escorene LPX 1, Escorene LPX 12, Escorene LPX 15, Escorene LPX 16, Escorene LPX 24
Synonyms: Escorene LPX 30, Esprene EBMN 0377, Esprene N 0372, Esprene SPO-N 0355, Esprene SPO-N 0372, Esprene SPO-N 0391, Esprene SPO-N 0392, EUL 430, Exact 3001, Exact 3010C, Exact 3017
Synonyms: Exact 3022, Exact 3025, Exact 3027, Exact 3028, Exact 3035, Exact 3055, Exact 3128, Exact 4003, Exact 4006, Exact 4011, Exact 4015, Exact 4017, Exact 4021, Exact 4023, Exact 4024, Exact 4028, Exact 4033, Exact 4038, Exact 4041, Exact 4042, Exact 4053, Exact 5008, Exact 5009, Exact 9036, Exact SLP 9053, Exact SLX 9106
Synonyms: Excelen VL-EUL 130, Excellen CN 3001, Excellen EUL 430, Excellen NO 377, Excellen SPO-N 0362, Excellen VL 100, Excellen VL 102, Excellen VL 103, Excellen VL 200
Synonyms: Excellen VL 400, Excellen VL 700, Excellen VL 800, Excellen VL-CN 2002, EXT 4033, Exxon 1001.37, Exxon 1002.37, Exxon 3027, Exxon 3028, Exxon 4011
Synonyms: FC 1010, FG 082, Flexomer 1085, Flexomer 1137, Flexomer 9020NT7, Flexomer 9042, Flexomer 9042NT, Flexomer DEFD 1491NT7, Flexomer DEFD 9042, Flexomer DFDA 1137, Flexomer DFDA 1137NT7, Flexomer DFDA 1138, Flexomer DFDA 1138NT, Flexomer DFDA 9063
Synonyms: Flexomer DFDB 9042, Flexomer DFDU 1085, Flexomer GERS 1085, Flexomer GERS 1085NT, FS 150A, FS 240, FU 149M, FW 201, G 5361, G 5381, G 5382, G-Resin 7047 Natural 7
Synonyms: GA 501, GA 802, GB 502, GERS 1085, GERS 7042, GML 2420, GP 2, GP 2 (polyolefin), GPX 1, GRSN 7040, GRSN 7042, GRSN 7043, GRSN 7047 Natural 7, GRSN 7140, GRSN 7144, GRSN 7146, GRSN 7510, GS 22442, GS 29441, GS 650, GT 03443, GT 10442, GT 11442, GT 17443, HD 6007, HD-EZ 53L

Synonyms: HO 60-45P, Hostalen GF 7740, Hostalen GM 5010, Hostalen GM 9255F, HS 0322, Innovex 2009A, Innovex LL 0209AA, J-REX D 9010, J-REX LD 9010, J-REX LL
Synonyms: J-REX LL-AM 1310, J-REX LL-AM 1710, J-REX LL-BF 1310, J-REX VL-D 9005, J-REX VL-D 9010, JL 2516, JL 5064, JSR-EBM 1041, JSR-EBM 12021P, JSR-EBM 3021, JSR-EMB 3021
Synonyms: L 0134M, L 0464R, L 0684R, L 1014D, L 1054D, L 2044D, L-CL 5030, L-FS 240, Linirex AF 1210, Linirex AF 2320, Linirex AF 3310, Linirex AJ 5410, Linirex AM 1710, Linirex BF 1310, Linirex BF 3310
Synonyms: Linirex BR 3410, Liten FB 29, Liten PL 10, Liten ZO 20, Liten ZO 29, LL 1001, LL 1001.09, LL 1001.32, LL 1001.37
Synonyms: LL 1001XV, LL 1002.15, LL 101AA, LL 105AA, LL 2074G, LL 6301RQ, LL-M 40F, Lotrex 1290, Lotrex FC 1010, Lotrex FC 1014, Lotrex FW 1180, Lotrex FW 1290
Synonyms: Lotrex RG 0305, LPX 1, LPX 15, LPX 2, LPX 30, LPXB 2, Luflexen 0322H, Luflexen 18T-FA, Luflexen HS 0322, Luflexen HX, Lumitac 12-1, Lumitac 22-1, Lumitac 54-1
Synonyms: M 3450, M 70, M 70 (polyolefin), M 8010, M 80V, M 8240, M 8510, Marlex 26300, Marlex 5002, Marlex 5003, Marlex 5005, Marlex 5040, Marlex 5065, Marlex 6503
Synonyms: Marlex HMN 4550, Marlex K 203, ME 8152, ME 8155, MG 913, MJX 501, Montell 16501C6, Moretec 0234CL, Moretec 0434N, MQF 0, MQFO, Nanoflex DFDA 1137

Synonyms: Natene 54000FB, Natene BD 403, Natene BD 404, Neo-zex 2540R, Neo-zex 3510F, Neo-zex 45200, NEWS 8001, Nipolon L-F 15R, Nipolon L-M 50, Nipolon L-M 55, Nipolon L-M 75, Nipolon L-M 76, Nipolon L-M 80, Nipolon L/M 50
Synonyms: Nipolonhard 2500, Nipolonhard 4010, Nipolonhard 5110, Nipolonhard 8022, Nipolonhard 8300, Nisseki Linirex AF 3310, Nisseki Linirex BF 1310, Nisseki Rexlon AF 2320, Nisseki Staflene E 715
Synonyms: Nisseki Staflene E 750C, Nisseki Staflene E 803, Norsoflex FW 1600, Norsoflex LW 2220, Novacor PF 0118B, Novapol PF 0118B, Novapol Y 821, Novatec HD-HE 580, Novatec LL-F 30FG
Synonyms: Novatec LL-UC 380, Novatec LL-UF 230, Novatec LL-UF 240, Novatec LL-UF 840, Novatec LL-UJ 370, Novatec LL-UR 950G, Novatec LL-X 729
Synonyms: Novatec UF 230, Novatec X 729, NUC-FLX DEFD 9042, NUC-FLX DFDA 1137, NUC-FLX DFDA 1138, NUC-G 5172, NUC-G 5210, NUC-G 5211, NUC-G 5222, NUC-G 5361, NUC-G 5381, NUC-G 5391, NUC-G 7101, NUC-G 9301, NUC-GS 650, NUC-LL-MG 365, NUC-MG 365, NZ 50300, OJ 227T
Synonyms: Parapol 1300, PB 8240, PB 8310, PB 8340, PB 8910, PB 8910PC, PE 0234CL, PE-L 0464R, Petrothene GA 501, Petrothene GB 502, Petrothene LB 733, PF 0118B, Polyethy B 733, Polyethy LL-M 40F
Synonyms: Polyethy LL-UF 240, Polyethy LL-UF 422, Polyethy LL-X 729, Polyethy UF 230, Polyethy UF 240, RE 306, RE 306 (polyolefin)
Synonyms: Resilin 11F1, Rextac 2503-3A, Riblene LX 2211, Rigidex HD 5502, Rigidex HD 6007, Sclair 11D1, Sclair 11E1, Sclair 11F, Sclair 11K, Sclair 11K1, Sclair 11P, Sclair 11R
Synonyms: Sclair 11U4, Sclair 13-11E, Sclair 14B, Sclair 2111, Sclair 2113, Sclair 2114, Sclair 2915, Sclair 31E, Sclair 35B, Sclair 51-35B, Sclair 8107, Sclair 91A, Sclair 94D, Sclair 96A, Shell 8510
Synonyms: Sholex 5551H, SLP 1-277, SLP 1-291, SLP 3010A, SLP 4-2219, SLP 4011, SLP 9045, SLP 9053, SLX 9106, Softrex C 9005, Softrex D 9052, Softrex SRX 2, Staflene E 715, Staflene E 750C, Staflene E 803
Synonyms: Stamylan H 3032, Stamylex 1258, Stamylex 4408, Sumikathene CL 2036,

Sumikathene CN 2011, Sumikathene FA 102-0, Sumikathene L-CL 5030
Synonyms: Sumikathene L-CL 8145, Sumikathene L-FA 101-1, Sumikathene L-FA 102, Sumikathene L-FA 102-0, Sumikathene L-FA 201-0, Sumikathene L-FS 140, Sumikathene L-FS 150A, Sumikathene L-FS 150B, Sumikathene L-FS 150C, Sumikathene L-FS 160A
Synonyms: Sumikathene L-FS 240, Sumikathene L-GA 701, Sumikathene L-RA 1003, Sumikathene LFS 370, Sumikthene FA 102
Synonyms: Tafmer A 0550, Tafmer A 0585X, Tafmer BL 3110, Tafmer BL 3450, Tafmer TX 612, Tafmer TX 650, UC 1085, UC 380, UC 7042, UC 7144, Ucar DFDA 1137 Natural 7, Ucar FLX-DFDA 1137
Synonyms: UF 230, UF 240, UF 840, UJ 580, Ultzex 2080C, Ultzex 4020B, Unifos Kemi New 8020, Unipol 7047, UZ 2080C
Synonyms: Vitron 1200S, VL 100, VL 200, VL 400, VL 700, VL 800, Witron 8240-2, Yuclair FU 149M, Yukalon L-L 315F, Yukalon LL-M 40H, Yukalon LL-M 80V, Z 40H, Z 50MG, Z 517, Z 521
Use: Additive to polypropylene, polyethylene and similar materials for use in injection molding
Molecular formula: C_2H_4 copolymer with C_4H_8
CAS No: 25087-34-7
EINECS No:

Physical data

Appearance: solid
Melting point: typically near 60 C
Boiling point:
Vapour density:
Vapour pressure:
Density (g cm^{-3}): 0.88
Flash point:
Explosion limits:
Autoignition temperature:
Water solubility: negligible

Stability

Stable. Incompatible with fluorine and other strong oxidizing agents.

Toxicology

May be harmful if inhaled or swallowed. Toxicology not fully investigated.

Toxicity data
(The meaning of any toxicological abbreviations which appear in this section is given here.)

ORL-RAT LD50 4000 mg kg^{-1}

Risk phrases
(The meaning of any risk phrases which appear in this section is given here.)

Transport information

(The meaning of any UN hazard codes which appear in this section is given here.)

Personal protection

Minimise exposure.

Safety phrases
(The meaning of any safety phrases which appear in this section is given here.)

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